Study shows promising safety results for anti-aging drug

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The search for the fountain of youth led to a 2009 discovery that a drug called rapamycin was shown to extend the lifespan of mice. Since that time, studies on the metabolic side effects of rapamycin have made it unclear whether the drug is safe as a long-term treatment. A recent study published in the November issue of the journal *Aging* showed minimal metabolic side effects after continuous, long-term treatment with encapsulated rapamycin in a marmoset (monkey) model.

The study, completed by researchers with the Barshop Institute for Longevity and Aging Studies at The University of Texas Health Science Center at San Antonio and the Southwest National Primate Research Center (SNPRC) at Texas Biomedical Research Institute, is the first to examine the metabolic consequences of rapamycin dosing in healthy, non-human primates. In addition to metabolic function, the researchers found that the encapsulated rapamycin was well tolerated by the marmosets.

"This initial study with marmosets as a model for human aging has allowed us to evaluate the efficacy of a new intervention treatment that looked promising in other animal model species for both healthspan and lifespan extension," said Dr. Corinna Ross, lead author of the study and Assistant Professor Biology, Texas A&M University San Antonio.

"The results are encouraging," said Dr. Suzette Tardif, Associate Director of SNPRC and co-investigator on the study. "Marmosets also offer a unique non-human primate model that will allow us to further evaluate not just the safety but the effectiveness of treatment with rapamycin."

Due to results from this study, a grant for $2.7 million was awarded to the Barshop Institute and SNPRC by the National Institute on Aging to fund a new study to determine the effects of rapamycin lifespan and markers of healthy aging for a cohort of marmosets that have already reached middle age .

Dr. Adam Salmon, principal investigator of the new study and Assistant Professor/Research Department of Molecular Medicine at the Barshop Institute, said, "These studies will provide an important step towards translational approaches to delay age-related disease and improve healthy aging in humans by means of pharmaceutical inhibition of mTOR (mechanistic target of rapamycin)."

The new study begins this month.

Provided by Texas Biomedical Research Institute